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- Sustainable Transport in European Metropolitan Regions
- Farm Diversification and Farm Tourism
- RSA Engagement with Public Policy

## SUSTAINABLE SOLUTIONS TO TRANSPORT ISSUES IN METROPOLITAN REGIONS: INTRODUCTION

Janez Nared, Scientific Research Centre of the Slovenian Academy of Sciences and Arts, Ljubljana, Slovenia and Frank Segebade, Joint Spatial Planning Department of Berlin-Brandenburg, Potsdam, Germany



Transport is a key factor in economic development, as economic growth requires ready access to resources and market. This applies in particular for Metropolitan Regions as engines of economic growth and as regions with a very diverse population. However, this need for mobility and economic growth has as side effects rising volumes of traffic and levels of congestion with significant impacts on the environment. The ultimate goal is to have metropolitan regions where transport, and therefore economic growth, has a minimal impact on the environment (environment-friendly modes of transportation), thus achieving a sustainable transport system, and considering its environmental, technical and socio-economic dimensions. These aspects cannot be addressed separately as they are strongly interdependent and consequently require an integrated approach. Citizens will contribute to reducing the environmental impact of transport not only by using more efficient transport modes powered by better fuels (technical dimension) but in addition by reducing their time behind the wheel and living in communities designed for increased walking and biking (socio-economic dimension) thus obtaining sustainable mobility. Metropolitan Regions in Europe have considerable differences in their historical development concerning transportation and land use. They have also found a wide range of ways to adapt their organizations to expanding urban areas and complex territorial structures.

The above-mentioned problems are comprehensively tackled within the

Catch-MR project (see box), where cooperation between Metropolises and their surrounding functional regions is put to the fore in the case of Berlin-Brandenburg, Budapest-Central Hungary, Gothenburg Region, Ljubljana Urban Region, Oslo-Akershus, Province of Rome, and Vienna-Lower Austria.

One of the most exciting developments can be noted in Berlin-Brandenburg. The fall of the wall opened the way to big structural changes and to integration of the city and its surroundings. Both federal states (Berlin and Brandenburg) have realized the need to tackle the planning issues together and the creation of the Joint Spatial Planning Department Berlin-Brandenburg, which started work in 1996, proved to be the right decision to ensure integrative spatial planning. The situation is comparable to that in Vienna-Lower Austria, where an informal cooperation of the whole metropolitan area is a model to overcome different spatial planning legislations at the regional level, and in Norway where the National Government obliged both Oslo and Akershus county to coordinate land use and transport planning in order to achieve shorter travel distances and efficient, coordinated transport. The practices have shown an immense progress in planning, but still urban sprawl remains an important factor that should be dealt with.

Growing centralisation in Slovenia has caused agglomeration of services and jobs in the capital Ljubljana although the number of its inhabitants decreases due to suburbanisation. The congestion caused by commuters has strengthened the aspirations towards an effective public transport system, but unfortunately transport and spatial planning have not always gone hand in hand.

To release the cities from congestion, integrative planning solutions are sought and new forms of mobility are constantly offered. In Gothenburg a big emphasis is put on transport interchanges which represent an important

part of the realisation of the future interactive and mobile region. In the case of the Casteli Romani area which is part of the Rome agglomeration, a concrete plan is presented, aiming at inclusion of the area in the common transport system and providing the inhabitants with a possibility for sustainable mobility.

As cycling plays an important part



Catch-MR is a project of 12 partner institutions, representing seven European metropolitan regions: Berlin-Brandenburg (lead partner), Budapest-Central Hungary, Gothenburg Region, Ljubljana Urban Region, Oslo-Akershus, Province of Rome, and Vienna-Lower Austria.

The network of the metropolitan regions cooperates on these topics:

- How can passenger transport between metropolis and its surrounding region be reduced without restricting mobility?
- How do alternatives to one's own car become attractive?
- How can the portion of environmentally-friendly technologies be increased in the field of transport?

The project runs from January 2010 to December 2012 and is funded by the EU-INTERREG IVC Programme.

<http://www.catch-mr.eu/>



in the modal split of Budapest, they are trying to extend the cycling paths also outside the city and thus integrate the metropolis with its hinterland and create the circumstances for more sustainable commuting.

As space is limited only several, hopefully important and interesting examples are presented.

**Dr Janez Nared** is a research fellow at the Anton Melik Geographical Institute, Scientific Research Centre of the Slovenian Academy of Sciences and Arts in Ljubljana. His key research interests include economic geography and regional development. He also acts as a RSA Ambassador in Slovenia.

*janez.nared@zrc-sazu.si*

**Frank Segebade** is Head of Division in the Joint Spatial Planning Department Berlin-Brandenburg in Germany. His work focuses on regional development and structural policy in the Capital Region Berlin-Brandenburg. He is the project coordinator of Catch-MR.

*frank.segebade@gl.berlin-brandenburg.de*

## REDUCING CARBON-BASED TRAFFIC BY REGULATING SETTLEMENT DEVELOPMENT IN A BINDING PLAN AND ESTABLISHING AN EFFICIENT PUBLIC TRANSPORT SYSTEM

**Corinna Elsing and Christina Schlawe, Joint Spatial Planning Department of Berlin-Brandenburg, Potsdam, Germany**



### Introduction

Soon after the fall of the wall, Berlin and Brandenburg started to tackle spatial development issues together. The manifold and increasing interdependencies between metropolis and region called for joint approaches to prevent unsustainable development. Berlin and Brandenburg started to adjust their planning and to work together on a common spatial vision. The main challenges were the prevention of uncontrolled urban sprawl and major retail projects at non-integrated places.

### Foundation of a common authority

Soon it became evident that new formal and joint structures were necessary if effective communication and decision processes were to be established and recurring discussions on competences avoided. Finally, Berlin and Brandenburg agreed on the foundation of a common authority, the Joint Spatial Planning Department Berlin-Brandenburg (JSPD), which started work in 1996. The JSPD bundles all competences and procedures of the regional development of Berlin and Brandenburg and is therefore the

only federal state authority in Germany which is responsible for two federal states in the area of regional development. The JSPD acts as an authority for two governments and has employees from both federal states.

### Reducing transport necessities by regulating settlement development

The Capital Region Berlin-Brandenburg with its population of approximately 6 million inhabitants has a very diverse structure: a metropolis surrounded by clustered structures in a predominantly sparsely populated territorial state. This settlement pattern alone is a challenge when it comes to setting up a sustainable transport organisation. Additionally, the challenge has been intensified by changes in the economic, demographic and ecological framework in the last two decades.

In comparison with other German federal states, Berlin and Brandenburg are characterised by a difficult economic situation, marked by a high unemployment rate, which in turn has major impacts on demographic development. These include a broad decline in population, primarily in the outlying parts of Brandenburg, shrinking cities and high numbers of empty dwellings, especially in the former municipal housing complexes erected during German Democratic Republic times. This development is accompanied by an ageing population. At the same time, the existing and forecasted effects of climate change call for action. Necessary

adaptation and mitigation measures require strong political decisions.

Against this background, a revision and realignment of planning guidelines had become necessary. Therefore, the Capital Region Berlin-Brandenburg decided in 2006 to adjust the existing instruments of spatial planning: the State Development Programme (LEPro) and the State Development Plan (LEP B-B).

In order to adapt to the changed framework conditions, the Capital Region agreed to move from a 'balance of interest system', which offered all development opportunities to all subspaces, to a system which concentrates on already existing and efficient structures. By applying the concept of 'strengthening strengths', the limited resources are to be bundled and used for sustainable growth and development of the region. A system of (middle- and high-order) central places forms the backbone, with a functional transport system as a linkage.

The State Development Programme (LEPro), which came into force in February 2009, converts these ideas into general principles. It includes a generous scope for development in centres that are easily accessible, economically dynamic and have a population concentration.

The new State Development Plan Berlin-Brandenburg (Landesentwicklungsplan Berlin-Brandenburg/LEP B-B) took effect in 2009. It specifies the abovementioned principles and contains clear and binding indicator-based regulations for municipalities regarding their allowed 'settlement



'Berlin Star' – Part of the State Development Plan Berlin-Brandenburg (LEP B-B)

development potential'. Higher, unrestricted growth potentials (especially for new residential areas) are only allocated to defined municipalities located along established railway axes ('Berlin Star') and fulfil certain central functions. Development in areas outside an axis is restricted. Major retail projects are only allowed in central places.

This kind of (settlement) development is a prerequisite for reducing transport in general and therefore also carbon-based transport. However, to be effective it needs to be applied and implemented by different actors within the federal states, the regions and municipalities. Therefore, during future planning activities, early informal involvement of all actors should be given greater importance. Including a variety of ideas and opinions in the planning processes improves planning results and their public legitimation. Additionally, new forms of cooperation are necessary to meet the increasingly complex challenges in the Capital Region Berlin-Brandenburg and in metropolitan regions in general. Innovative forms of cooperation can provide solutions where a naturally inflexible instrument like the LEP B-B reaches its limits. In a planning environment that still mainly relies on formal instruments, this means a significant challenge, especially (but not only) for the public sector.

### Necessity of an efficient public transport system

Transportation is the crucial link for securing mobility between a metropolis and a mainly rural region. Therefore, the regulating instrument of the LEP B-B had to be accompanied by the establishment of an efficient public transport

system to reduce carbon-based traffic. Thus, Berlin and Brandenburg also agreed to jointly organise and finance public transport in the metropolitan region. Following this basic decision, the Verkehrsverbund Berlin-Brandenburg (VBB) – the joint transport association – was established from 1996 onwards, serving around 30,000 km<sup>2</sup>.

On 1 April 1999, the unified VBB fare structure was introduced enabling customers to travel on every mode of public transport using a single ticket instead of multiple tickets as in the past.

An efficient regional rail transport is of major importance since this is the mode of public transport that primarily serves commuters from the periphery into and out of the metropolis. Therefore, radial regional rail lines were established which cross Berlin. Increased passenger numbers reflect the success of this kind of network. Smooth commuting to destinations in the inner city of Berlin is mainly provided by the S-Bahn as well as by bus, tram and underground.

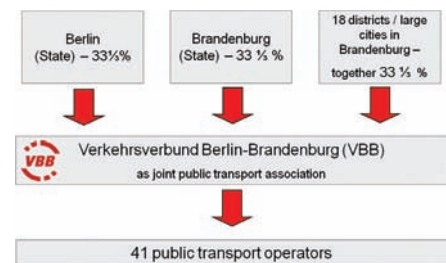
Furthermore, means were established to secure an integrated transport system. In the closer metropolitan area, Berlin and Brandenburg plan regional rail transport in cooperation with each other using Public Transport Plans. The coordination is one of the main functions of the VBB. It plans, tenders and contracts railway services for both federal states, Berlin and Brandenburg, thus securing a consistent regional railway system. Furthermore, the transport authorities at the district level in Brandenburg have to coordinate their plans for bus and tram services with the plans for regional rail services of Berlin and Brandenburg. This contributes to securing an integrated public transport system between the more rural Brandenburg and Berlin. Another supporting element is the provision of P&R facilities near railway stations in Brandenburg, especially at stations in the closer vicinity of Berlin.

In another important step, the system of public transport financing in Brandenburg was restructured in 2005, thus ensuring sound financing for the 18 transport authorities at the district level that are responsible for bus and tram services. Funding sources were combined and no longer awarded to operators but exclusively to transport authorities. Thus the earlier transfer of tasks to the districts, based on the principle of subsidiarity, was followed by a full transfer of financial responsibility. Additionally,

steady long-term funding was guaranteed to ensure planning reliability. Consequently, transport authorities at the district level are provided with more room for manoeuvre and flexibility to meet their public transport needs.

Regional public transport is highly subsidised. With regard to the VBB, ticket sales make up about half of the operational costs (infrastructure not included). Although there is no alternative but to provide subsidies for public transport services, procurement of services is increasing in importance. Against the background of decreasing public finances, procurement is a tool for improving cost effectiveness and quality of transport.

The success of the VBB is shown by the number of passengers using the VBB network. This increased from 1,061 million per year in 2000 (2.91 million/day) to 1,266 million per year in 2010 (3.47 million/day) (VBB 2011, p. 115).



VBB structure

**Corinna Elsing** is a senior officer at the Joint Spatial Planning Department Berlin-Brandenburg. Her work focuses on principles of regional and structural policies, especially on the promotion of the development of the Capital Region Berlin-Brandenburg in a regional as well as in a national context.  
[corinna.elsing@gl.berlin-brandenburg.de](mailto:corinna.elsing@gl.berlin-brandenburg.de)

**Christina Schlawe** is a senior officer at the Joint Spatial Planning Department Berlin-Brandenburg. Her work focuses on the management of the INTERREG IVC project Catch-MR and development policies for metropolitan regions with a focus on transport policies.  
[christina.schlawe@gl.berlin-brandenburg.de](mailto:christina.schlawe@gl.berlin-brandenburg.de)

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# REDUCING ROAD TRAFFIC THROUGH COORDINATED PLANNING OF LAND USE AND TRANSPORT

Peter Austin, City of Oslo and Tor Bysveen, Akershus County Council, Oslo, Norway



## Introduction

The Norwegian government has given policy guidance for local and regional authorities' land use planning (MOE, 1993), requiring that land use and transportation be coordinated, leading to shorter travel distances and efficient transport. This policy is reviewed for Oslo and Akershus, in view of studies showing where population and employment have grown in recent years, and a literature study of driving forces for urban sprawl across Europe, published March 2011. A draft Regional Strategy for Land Use and Transport for Oslo and Akershus, June 2011, gives the political platform (MOE, 2011). Oslo has 600,000 inhabitants and Akershus 550,000. Jobs and population are growing by more than 2% annually. Akershus County surrounds Oslo and has responsibility for transport. 22 municipalities in Akershus are land use planning authorities. Oslo is the core city. Akershus, includes part of the agglomeration and towns, scattered villages and farmland.

## The urban region hopes to give renewed direction through planning cooperation

In 2007, the government instructed Oslo and Akershus to develop a regional plan for land use and transport. A draft strategy was completed in Summer 2011. Development should encourage efficient and more compact land use, and conserve green spaces. The transport network will be efficient and more environmentally friendly. This will be approved by Oslo City Council and Akershus County Council in 2012 and sent for final government approval. In addition, Oslo and Akershus will reduce climate gas emissions by 50% before 2030, compared with 1990. Road traffic volumes in Oslo have been stable for 4-5 years and public transport has risen in both counties.

## What is happening on the ground?

Asplan Viak (2010) examined changes in the development patterns using data for 1,379 small areas<sup>1</sup> which were arranged into three groups according to the centrality of their location within each subregion. Half of the dwellings in Akershus are detached houses, whereas 20% are in apartment blocks. The split in Oslo is the opposite. The predominance of detached housing in Akershus explains the extent of urban sprawl. There is a continuation of existing development patterns. About 25% of all population growth in Akershus for 2000-2009 occurred in non-central areas without public transport!

In the last decade, there has been more new house building in central areas than previously. At the same time, new housing in the most central areas has been outweighed by strong house building in the least central areas, together with a relative reduction in new houses built between the central areas and the rural periphery. Public transport between the main transport termini has increased, but the demand for buses, with a wider coverage, has stagnated. This development has also stimulated population growth in the least central parts of Akershus – contrary to intentions.

Half of the increase in employment in Akershus has been in the ICT, finance and business support sectors. Bærum, Akershus' largest, suburban municipality has had strong job growth. Most of the other municipalities in Akershus still have an undersupply of jobs. This development is hardly in line with the guidelines for good land use and transport planning (Asplan Viak,

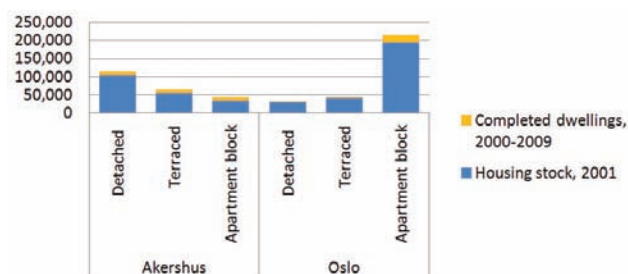
2010). Akershus and Oslo need 190,000 new houses in total. About 25% can be built in Oslo's inner city, the rest have to be located elsewhere. Sites for private and public developments must be chosen, and land use, competitiveness, centre-hierarchy, parking and transport services have to be considered. Households' expectations and the house builders' responses will be decisive.

## International definitions of Urban Sprawl help us to understand our own challenges

Urban sprawl is understood as development with low density and an inefficient use of space, where the private car is the main means of transport. The literature on urban sprawl shows that this is mainly concerned with housing. Businesses that contribute to urban sprawl are also directed towards scattered settlements, such as shopping centres, creating dependency on car use (TØI, 2011).

Urban sprawl is driven by economic, social and transportation factors. Demographic changes, political, economic, cultural and social forces may be decisive. The driving forces vary with the wider context, so that the causes of urban sprawl in one area do not necessarily have the same effect in another (ibid). More accessibility encourages policies that lead to urban sprawl. Economic growth stimulates migration to the region. Business and financial services are the types of knowledge-based industries that require very good communication, leading to increased pressure in central areas and urban sprawl (ibid). Households assume that they will have access by car when

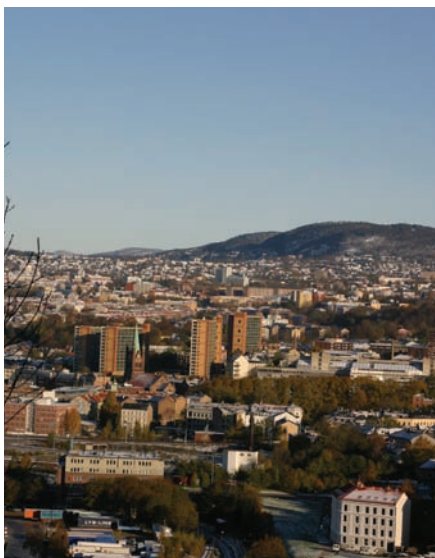
Figure 1: Housing structure and house building in Oslo and Akershus



they move house or change jobs. If more jobs and housing is encouraged at public transport nodes, then urban sprawl may be avoided. Migration studies in Norway show that housing and family status are more important factors for moving house outside the core city (NIBR, 2010). Employees in knowledge industries in modern cities may therefore be more likely than before, to seek housing in more peripheral parts of the region.

How does the Norwegian planning system deal with the dynamics of migration and work/housing mobility? Can regional and local planning policies succeed in directing employment and housing towards central locations, at the same time as supporting business growth and employment? Local factors are important in driving urban sprawl. Land owners find support in the property market, and are unconcerned about road congestion. The costs of sitting in traffic queues are borne by individuals. Land use conflicts have to be resolved between land owners, developers with an eye for sales margins, municipalities who hope to attract new tax-payers, and the strategies of the authorities. In this context, we ask how well national policy guidelines will meet the challenges of sustainability in growth areas.

Cars give more flexibility and sometimes even quicker commuting. Higher car ownership levels are linked with lower density housing. Households that choose to live in low-density areas are willing to meet the costs of their chosen lifestyle. Advantages of living



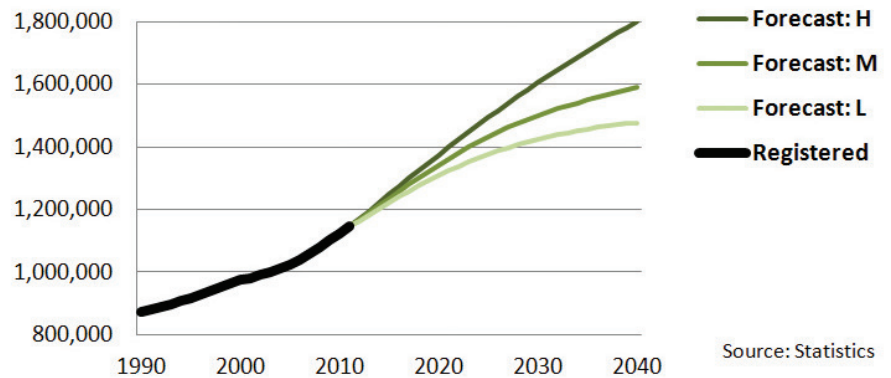
High-density development in the urban area, Oslo. Source: Plan – og bygningsetaten, City of Oslo

**Table 1: Numbers of dwellings by housing type in Oslo and Akershus**

Housing type	Akershus			Oslo		
	Detached	Terraced	Apartment block	Detached	Terraced	Apartment block
Housing stock, 2001	105,082	55,904	34,022	31,127	41,127	194,602
Completed dwellings, 2000-2009	9,842	9,128	10,535	1,342	3,105	20,794

Source: Statistics Norway / PANDA-data.

**Figure 2: Population in Oslo and Akershus: 1999-2011 & 2011-2030**



Source: Statistics

outside central areas for them outweigh the resultant disadvantages of distances and car dependency. Urban sprawl can also be attractive. It would be unreasonable to force residents to build on small sites with more traffic and less amenity space in rural areas. Urban sprawl is a market response to the expectations of a large number of households. How do planning authorities address such housing aspirations, when the majority of analyses focus only on the negative sides of urban sprawl?

The interplay between tiers of government for land use planning is important. Fragmented power structures leave the door open for developers. The strength of political steering matters! Is the clarity of policy and commitment strong enough to implement the policies in Oslo/Akershus?

### International perspectives can inform the regional planning in Oslo and Akershus

Urban sprawl occurred in northern European cities after 1945, in the last 20 years in Southern European cities,

and the new EU members are now experiencing urban sprawl. Urban sprawl is an important form of development in Akershus, despite national and regional policies. Are the ambitions for regional planning in Oslo and Akershus realistic or even too high? While the main political players agree with the overriding objectives of competitiveness and sustainability, it seems that large sections of the property market – including the individual choices made by many thousands of households – still face in the opposite direction.

### Summing up

Having presented studies in relation to ongoing regional planning in Oslo and Akershus, do we have all the right tools to reduce or prevent negative forms of urban sprawl? How can the regional planning project for Oslo and Akershus meet these challenges, and how will municipal planning authorities implement the renewed regional policy when new planning proposals are put forward?

The studies referred to show clearly that we are not alone, but part of a



The municipality of Enebakk – urban sprawl in Akershus.  
© Oystein Soby / NN / Samfoto / SCANPIX

much wider European community of urban-regional planners who are addressing similar challenges. Through dialogue and joint innovation, we hope to develop and strengthen tools to steer future development in the wider interests of the community. The question remains, whether and how a joint

regional plan for Oslo and Akershus will succeed in directing the future growth into the most central areas.

#### Endnotes

- 1 Small areas for statistical purposes, with about 400 residents on average.

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**Peter Austin** is a special adviser at the department for urban development of the Oslo municipality in Norway. His focus is on economic affairs, town development, housing and land use and transport.

[peter.austin@radhuset.oslo.kommune.no](mailto:peter.austin@radhuset.oslo.kommune.no)

**Tor Bysveen** is a special adviser at the department for transport and traffic of the Akershus county council in Norway. His area of work is demography, housing, land use and transport and airports.

[Tor.Bysveen@akershus-fk.no](mailto:Tor.Bysveen@akershus-fk.no)

## TRANSPORT CHALLENGES IN THE GROWING METROPOLITAN REGION: THE CASE OF LJUBLJANA

David Bole and Matej Gabrovec, Scientific Research Centre of the Slovenian Academy of Sciences and Arts, Ljubljana, Slovenia and Matej Gojčič, Regional Development Agency of Ljubljana Urban Region, Ljubljana, Slovenia



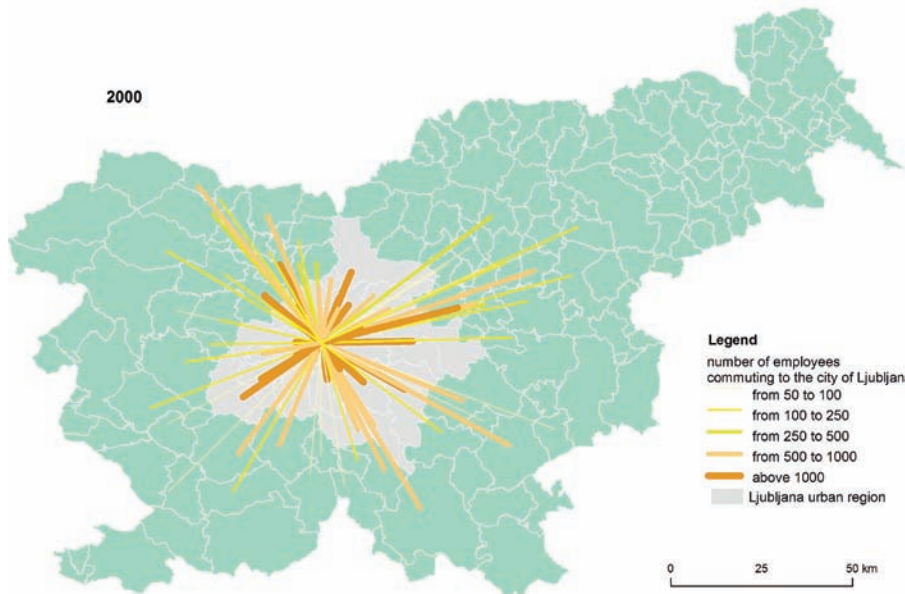
### Concentration and suburbanisation in the Ljubljana Urban Region

The city of Ljubljana has a developed and dynamic economy and is the centre of economic activity in Slovenia. According to the 2002 census, the city of Ljubljana had 174,347 jobs and 112,566 work-active individuals in 2002. This means that the city of Ljubljana had 12% of all the work-active population in Slovenia and more than 21% of all the workplaces in the country. It should be pointed out that, according to data from the Statistical Register of Employment, the number of work-active people in Ljubljana is constantly decreasing

while the number of jobs is increasing. The number of workers from other municipalities commuting to Ljubljana increased by approximately 30,000 between 2000 and 2007. The increase in the number of jobs has consequently led to increased daily mobility. Including high school and university students (45,000 according to the 2002 census) there are almost 150,000 daily commuters to Ljubljana (Gabrovec and Bole, 2009). Approximately 30% of all the investments in the country are made within the Municipality of Ljubljana and 45% within the Ljubljana Urban Region (Ravbar, 2009).

While centralisation toward the Ljubljana Urban Region is evident at a national level, the region itself is

**Figure 1: The situation in 2000**



characterized by an increasingly decentralised structure due to increasing residential and economic suburbanization. The residential suburbanisation in the Ljubljana Urban Region began after 1970. From 1991 onwards, the number of inhabitants has decreased in the urban core but increased in its suburbs where the prices of real estate are lower and more affordable. Economic suburbanisation is happening as well (Bole, 2008). It is expressed chiefly with the generation of local business and industrial zones; they are created mostly through classic ‘greenfield’ development, often conflicting with the nearby inhabitants and environmentalists (Bole, 2010).

The country’s centralisation and deconcentration of people and economic activity within the metropolitan region has affected the increase of daily mobility towards the city of Ljubljana, as shown by the analysis results for the period 2000–2009. The number of commuters to Ljubljana has increased from every direction: from suburbanised municipalities within and outside the Ljubljana region. Figures 1 and 2 clearly indicate the substantial increases in commuter flows from every direction, especially where important motorway sections had been completed. The completion of motorway sections has only strengthened Ljubljana’s central role in Slovenia, as the daily mobility flows in the other more important employment centres changed noticeably less intensely between 2000 and 2009. In some cases, mobility to remoter employment centres

is increasing due to economic crisis in the source municipalities.

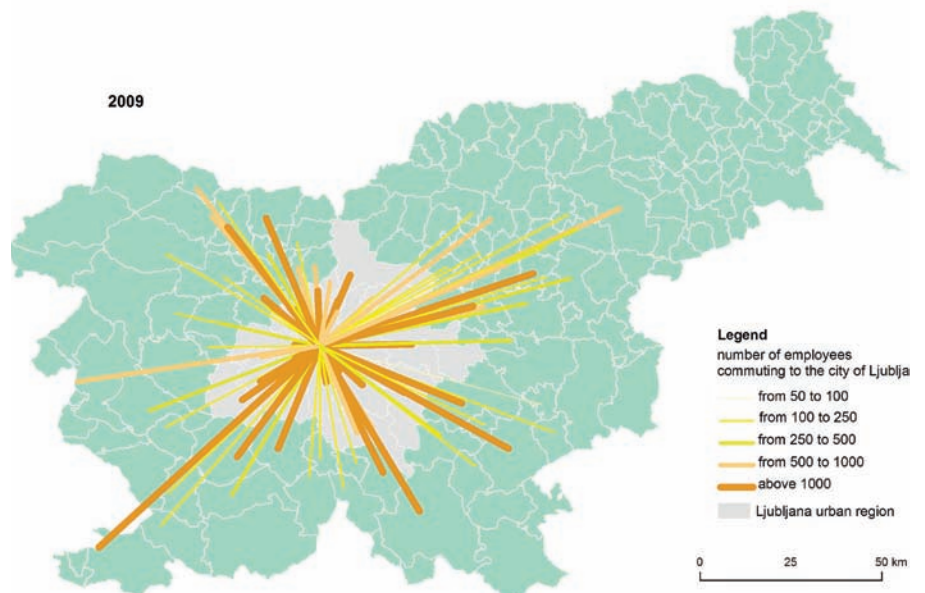
### Unsustainable mobility patterns

The described increase in daily mobility results in an increased traffic scope and consequentially bigger external traffic costs. Unfortunately, Slovenia has seen a constant decrease in public transportation use in the last few decades and an increase

in the number of automobiles and travelled kilometres by automobile. According to the Statistical Office of Slovenia, there was a 30% decrease in the number of passengers using the public transportation system in the period 2001–2010. The most significant, a 50% decrease, was noted in inter-city bus transportation; city bus transportation saw a 22% decrease, while there was even an increase in the number of railway passengers amounting to 12% in the last 10 years. In the same period, the number of registered automobiles in the country increased by a fifth and the number of travelled kilometres by 23%. A consequence of all these processes is an unfavourable modal split. There are 85% of commuters travelling by car in Slovenia, with only a tenth of those as passengers (Gabrovec and Bole, 2009).

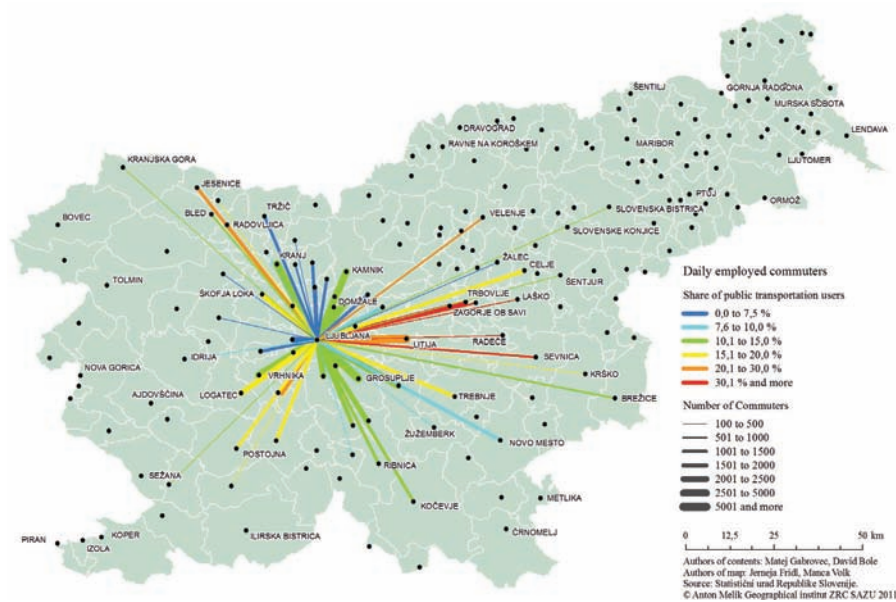
The conditions in the Ljubljana Urban Region do not differ noticeably from the national average; there are fewer automobile users only among the inhabitants of Ljubljana. However, there are evident differences in the modal split between individual routes within the Ljubljana Urban Region, as demonstrated in Figure 3. These differences allow us to detect some cases of good practice and the factors that enable and encourage environmentally friendlier travel habits. The highest shares of public transport users may be noted in the directions with good railway connections. The travel times of the passenger trains on these routes are comparable to automobiles and

**Figure 2: The situation in 2009**





**Figure 3: Modal split of commuters travelling to the city of Ljubljana**



even shorter in some cases. This clearly demonstrates that a quality railway connection can be comparable to automobile use (Gabrovec and Bole, 2009).

The situation in Ljubljana can be correctly evaluated only by comparison with other cities of comparable size. A comparison to the Austrian Graz is interesting where, despite increased mobility over the past two decades, the modal split remains roughly the same. This means that the increase in automobile use has been matched by the number of public transportation users (Plevnik et al., 2008). Such a result was achievable only with suitable traffic policy changes. Consequently, the following section states some policy measures for the Ljubljana region from the last few years set to achieve a more favourable modal split in Ljubljana and the region.

### Proposed traffic-political measures

The projects of public transportation system development in the Ljubljana Urban Region have been defined through the process of completing the study on regional public transport (Pelko, 2010). It was determined that the existing railway system must be reconstructed and updated at a regional level in order for it to function impeccably, as it should represent the backbone of regional passenger traffic. With the upgrades and renovation of railway connections, we wish to ensure a 15-minute interval in all directions during rush hours, which would enable trains to be comparable to automobiles. In addition, it is necessary to construct a new railway connection to Ljubljana Airport, because Ljubljana cannot act as a

competitive European metropolis without an adequate airport connection.

The attractiveness and accessibility of the public transportation system can be increased with the construction of the planned 38 locations for the Park and Ride (P+R) network, which will be scattered throughout the entire region and serve the purpose of limiting automobile use to the minimum amount and distances. Some of the P+R locations are set to be located in smaller urban centres in the region and are intended for the collection of passengers who cannot be reached with the public transportation system due to scattered settlements. Other P+R locations will be placed around the city of Ljubljana and will divert passengers arriving to Ljubljana on the motorways to the public transportation system. In order for the foreseen P+R locations to serve their purpose, they must be efficiently connected to a fast public transportation system. Public transportation therefore needs to be established along the main arteries into Ljubljana. Fast city connections that would reach average speeds of up to 24 km/h in rush hours with a 5-minute frequency could be partly achieved by marking bus lanes, which would also have right of way at intersections.

The entire public transportation system can be competitive only if the foreseen infrastructure improvements are combined with necessary 'soft' measures. In order to successfully alter the modal split, all the planned measures need to be combined with the promotion of more sustainable forms of transport, so that cycling, walking, and public transport use will no longer be in the shadow of automobile use.

**Dr David Bole** is a research fellow at the Anton Melik Geographical Institute, Scientific Research Centre of the Slovenian Academy of Sciences and Arts in Ljubljana. His particular interests include spatial development, urban, economic geography and mobility. Currently, he is leading a transnational cooperation project SY\_CULTour. david.bole@zrc-sazu.si

**Dr Matej Gabrovec** is a senior research fellow at the Anton Melik Geographical Institute, Scientific Research Centre of the Slovenian

Academy of Sciences and Arts in Ljubljana. His research interests include transport geography with special regard to public passenger transportation and land use and land cover changes studies. matej@zrc-sazu.si

**Matej Gojčič** is a deputy director of the Regional Development Agency of the Ljubljana Urban Region, responsible for development. His particular interests include spatial planning, sustainable public transport systems, GIS technologies and sustainable economies. matej.gojcic@ljubljanas.si

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# SUM: INFORMAL COOPERATION IN THE VIENNA METROPOLITAN REGION

Hannes Schaffer, mecca, Vienna, Austria and Renate Zuckerstätter, Metropolitan Area Management Vienna/Lower Austria, Vienna, Austria



inhabitants, while the population of the surrounding municipalities in Lower Austria is projected to increase by another 130,000. If these demographic forecasts prove correct, this will result in a population of close to 3 million by 2030. Demographic growth in the entire metropolitan region is primarily driven by migration from abroad and from the rest of Austria.

## Introduction

In the Vienna Metropolitan Region (MR), the core city Vienna is both a municipality and a federal province, and is embedded in the federal province of Lower Austria. In the last few decades, the Vienna MR has experienced a phase of largely unstructured suburbanization. Regional and traffic planners were often forced to merely react rather than act. The attractiveness of Vienna's metropolitan region continues unabated, and the suburbanization process, which already started in the 1960's in the southern part of the region, is increasingly spilling over to the northern periphery. Since the fall of the iron curtain, the MR has been growing again. Currently it has about 2.6 million inhabitants: 1.7 million in Vienna and roughly 900,000 in the environs. By 2031, the population of Vienna alone is expected to grow by 250,000

## Administrative borders as a challenge

In Austria, spatial planning legislation lies within the responsibility of the federal provinces, while the respective autonomous municipalities are in charge of local spatial planning. There is no federal spatial planning law. As a result, there are different planning laws, strategies, concepts and instruments in Vienna and Lower Austria. The allocation of rights and duties in the Vienna MR is therefore marked by an imbalance of administrative structures and legal competences.

In Vienna, the City Council is responsible for spatial development, which is implemented by the Vienna City Administration. In Lower Austria, municipalities are responsible for local spatial planning, and the Provincial Government only acts as a supervisory authority. This highly complex political, administrative and financial structure



Stakeholder exchange at a SUM conference

gives rise to many challenges and a number of difficulties.

## Cross-border cooperation is the solution

From the 1970's, politicians in the Vienna MR started to realise that spatial problems and transport issues transcend provincial borders. As early as 1978, the Federal Provinces of Vienna, Lower Austria and Burgenland established a cross-border planning body called 'Planungsgemeinschaft Ost (PGO)' to co-ordinate spatial planning in the region. Its activities embrace sometimes conflicting province-specific interests. Originally, the PGO served as a mere coordinating body between the individual administrations. At present, it is a strategic unit for joint planning by the three federal provinces. By establishing additional cooperation instruments in the federal provinces (e.g. local area management, regional management), it has become possible to break down the strategies to a smaller regional and local scale and to expedite their implementation.

With the Transport and Tariff Cooperation Board for East Austria (VOR), another important regional player took up work in 1984. Since then, VOR has acted as a cross-border interface between public transport passengers, transport providers and public administration. Its stakeholders are the federal provinces of Vienna, Lower Austria and Burgenland. 17 railroad and bus companies are partners of VOR. The tasks of VOR, namely the support for transport services, the coordination of transport companies and passengers as well as mobility management and information have become more and more important in the last few years. In the future, more emphasis shall be given to transport planning. From 1998, regional



Vienna has the best living standard in the world, according to the Mercer 2011 Quality of Living Survey

managers coordinated urban, regional and local stakeholders in the southern and northern part of the Vienna MR. In 2006, they were replaced by the Metropolitan Area Management Vienna/Lower Austria (Stadt-Umland-Management Wien – Niederösterreich, SUM).

### Focus on SUM

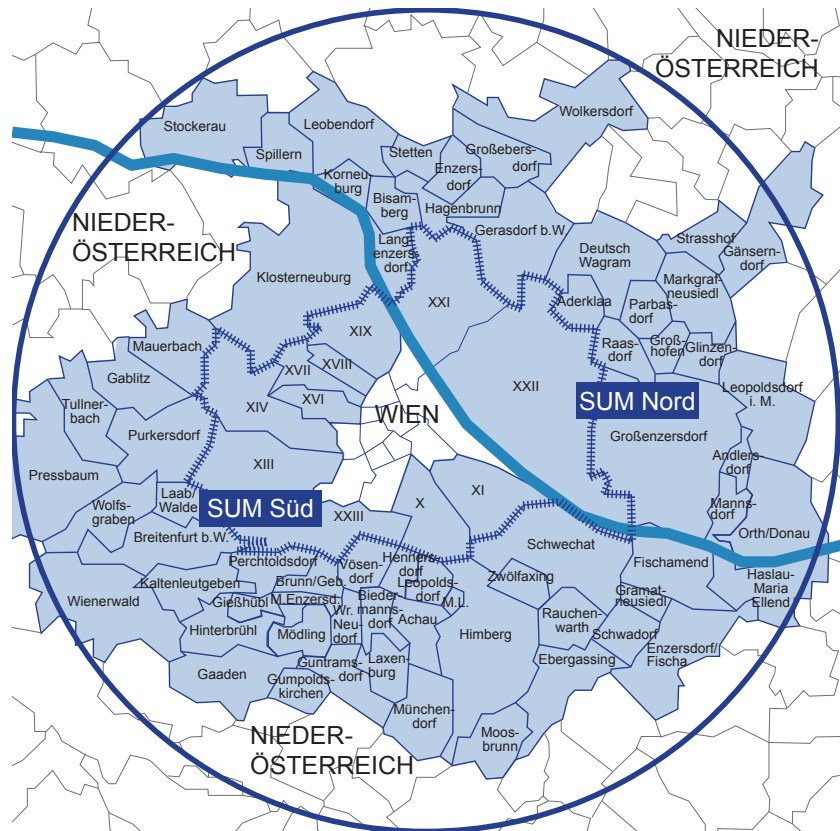
SUM, the Metropolitan Area Management Vienna/Lower Austria, was established as a joint initiative of the federal provinces of Vienna and Lower Austria. Its institutional basis is the Association of Lower Austria and Vienna – Common Development Areas, which is formed by the two federal provinces. The SUM Steering Committee is composed of administrative and political representatives of Vienna and the surrounding municipalities in Lower Austria, as well as the two SUM managers. SUM is co-financed by the two provinces.

SUM focuses on settlement and location policy, landscaping and mobility. It is a contact point with the following tasks:

- cooperation and intermediation: SUM is designing common solutions for cross border challenges, mediating controversial cross border issues, establishing a joint regional strategic approach of the 60 Lower Austrian municipalities and 11 Viennese districts. For this task VIA SUM, an online information system for projects of regional importance has been established (see also <http://www.stadt-umland.at>).
- information: SUM works as a platform for topics of regional relevance, organising an exchange of thoughts among the stakeholders. With the establishment of annual conferences, SUM offers a platform to discuss topics of importance for the whole region such as site development, infrastructure cooperation, public participation, etc.
- networking: SUM is strengthening mutual trust, establishing an all-inclusive perspective on the area.

Partners of the cooperation are the mayors of municipalities, provincial legislators, the provincial administration for regional planning in Lower Austria, as well as city councillors, districts chairpersons and the

**Figure 1: SUM cooperation area**



city administration concerned with urban planning on the part of Vienna.

### The Korneuburg Mobility Centre at a glance

As a result of the SUM dialogues, the Korneuburg Mobility Centre was established by Lower Austria in 2009. Based in the small town of Korneuburg near Vienna, it develops multimodal mobility projects between the densely populated urban areas of Vienna and the more rural neighbouring regions in Lower Austria. The Centre fosters better connections

between public and individual means of transport, and creates a stronger awareness of environmentally friendly mobility in general. Ongoing projects are:

- establishing bike rental stations of the ‘nextbike’ bike sharing system;
- holding an annual award show on mobility projects;
- organising mobility events for kids (‘climate miles’) and teenagers;
- initiating a continuous dialogue on public transport schedules to improve urban-rural train and bus connections.



*The Korneuburg Mobility Manager at work*

**Hannes Schaffer** is Director of mecca, a company working in the fields of spatial and environmental planning and cross-border cooperation. His research interests are cross-border cooperation and environmental planning. [office@mecca-consulting.at](mailto:office@mecca-consulting.at)

**Renate Zuckerstätter** is the manager of the northern SUM area. She studied spatial planning in Vienna and is a member of the Austrian Chamber of Engineers and a Mediator for Civil Matters. [sum.nord@stadt-umland.at](mailto:sum.nord@stadt-umland.at)

# THE ROLE OF PUBLIC TRANSPORT INTERCHANGES IN REGIONAL PLANNING

Per Kristersson, Gothenburg Region, Association of Local Authorities, Gothenburg, Sweden

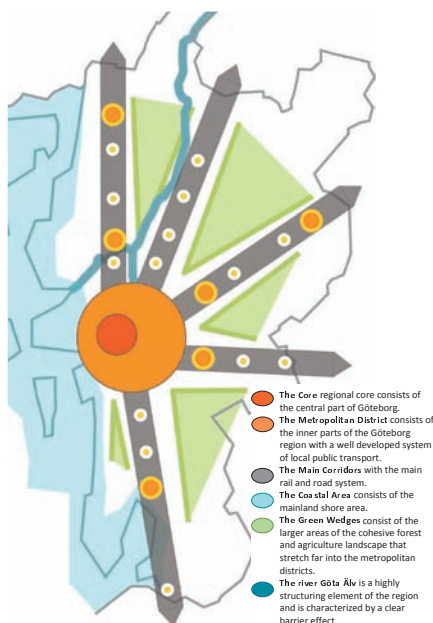


## A political decision

In the region of Gothenburg, a political decision has been made to shift the modal split between individual car use and public transport.

Today, 24% of trips are made by public transport and the challenging goal is to increase this to 40% by 2025. Traditional transport planning methods are not enough to manage this change in people's mobility behaviour. We are convinced that another more holistic approach is

**Figure 1: The structural illustration, GR 2008**



necessary. How space for public transport is prioritised and the way public transport routes are organised has to be dealt with if more people are to use public transport. In the Gothenburg region, the Association of local authorities (GR) has developed goals and strategies that focus on a sustainable regional structure. The challenges of climate change require that regional economic development, social inclusion and environmental constraints are all balanced.

A structural illustration has been developed to help stakeholders involved

in transport and land use planning to focus on the region's vision for spatial development. The governance model used to develop this strategy involved a constructive dialogue between the executive board of GR and the 13 local municipality council members. In accordance with the regional development strategy, the region will be developed by establishing an attractive and efficient regional commuter rail service. The construction of a rail link under the city core with two new underground stations and a new station at Göteborg Central will allow for new regional rail routes and increase accessibility to the city centre. Capacity for rail freight traffic will also improve. Regional dialogue has resulted in a political agreement where both the local and the regional levels take joint responsibility for a sustainable regional structure. Every municipality is responsible for their part of the regional structure, but they also need support from other local municipalities in their efforts.

## K2020 – doubling public transport use

As a result of the political agreement, the structure of the public transport network was reviewed. It was agreed that there should be a better focus on creating an efficient service that could compete with travelling by car. The K2020 development programme for public transport in the Gothenburg region demands a public transport system that is “reliable, safe and accessible”. What does this involve?

- A route network built on a structure that concentrates traffic to a few high frequency routes.
- The introduction of well-appointed interchanges that increase flexibility when travelling.
- Ensuring access to dedicated public transport lanes.
- Supporting service value for the traveller so that the perceived quality of the public transport system is enhanced.

Public transport interchanges have a special role in both the K2020 strategy

**Figure 2: The GO-Concept K2020 2008**



and the regional structural development plan. Interchanges do not only support the transfer between different transport routes, they also link different modes of transport together. The Go-Concept, specially designed for the K2020 programme, describes six levels of travel mode and the ways in which they are linked together at an interchange. The design of the interchange is a key factor for the user experience. Interchanges should be meeting points, and not only be used by travellers. The K2020 programme establishes a series of functional interchange design criteria.

## The interchange

An interchange must be a secure and attractive place for people to meet. It must also enable efficient exchange between different modes of transport.

**Figure 3: The ideal interchange, K2020 2007**



The K2020 functional design criteria are based on an analysis of societal trends and establish nine targets for interchange design. Each target is linked to a checklist which can be used to create the 'ideal interchange', an interchange designed with the human perspective in focus. Gothenburg has now started to implement these targets when designing new interchanges. The interchange is an important part of the realisation of the future interactive and mobile region.

### Changing the planning perspective

Previous decades of planning have focused on the efficient use of the car for both individual transport and the carrying of goods to and from the home. Roads and motorways have enabled the individual to choose where to live and where to work without being restricted by distance. The cost of housing has also added to urban sprawl in the Gothenburg region. Job opportunities are mainly located in the central parts of the region, resulting in congestion and a continual decrease in mobility. Climate change calls for change. The transport sector is a significant polluter and must focus on mobility issues. Excessive use of the car leads to congestion but also allows access to remote areas. There is therefore a need for 'smart mobility'.

### Smart mobility

Traditional mobility management utilises the specific advantages of different ways of 'travelling', i.e. walking, cycling, by car or by public transport. Factors that are taken into consideration are, for example, time, cost, pollution, congestion, individual preference and investment in infrastructure. A combination of different ways of travelling will result in a more balanced use of resources. 'Smart mobility' is, however, where the individual preferences and the

planning authority objectives intersect. Smart mobility is where the combined journey is also the preferred.

### Interchanges enable more flexible journeys

Interchanges are the obvious place to locate facilities that need to be accessible not only by foot or bicycle but also through more far reaching transport modes. Interchanges benefit from being located in densely populated areas and attract services such as shops, library, sporting halls, etc. The interchange is the new town centre or square, a place that is always on your route and a place where essential facilities are located.

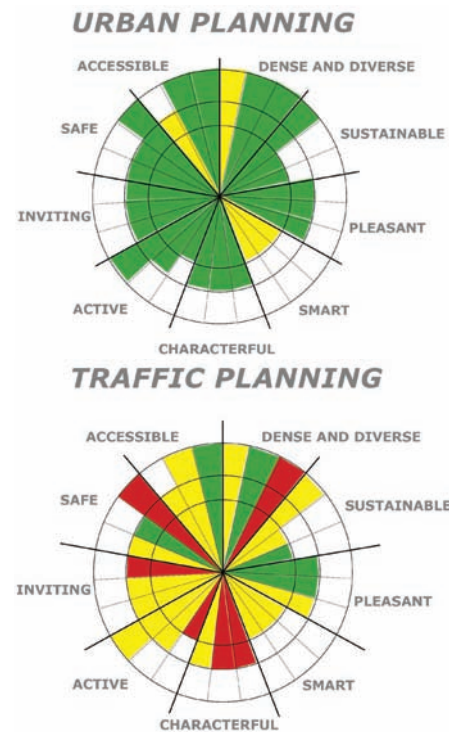
### In practice

The principles outlined in the work with 'K2020 ideal interchanges' have been used in three different practices. Firstly, they were used in a study where the principles were tested. A traditional traffic planning approach and an 'ideal interchange' approach were used to design an interchange at Linnéplatsen. The two resulting designs were evaluated by a team of planners using criteria outlined in K2020. Green, yellow and red indicators were used to graphically illustrate how well the design corresponded to the criteria. Green indicated a positive response, Red negative response and Yellow neutral response to the criteria that had been set up by K2020.

Secondly, the principles have been used as a checklist when designing new interchanges. One example is the motorway bus interchange at Landvetter where local buses and GoFast buses are linked.

Thirdly, the principles are being used when designing new 'state of the art' interchanges in the city centre.

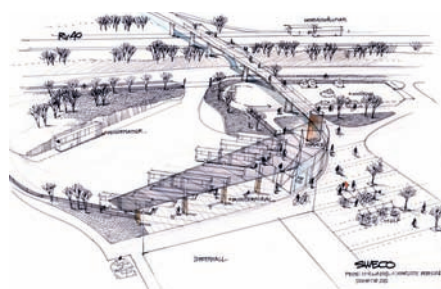
Figure 4: The actual inter-change, White 2010



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**Per Kristersson** is a Senior Planner at GR (Gothenburg Region, Association of Local Authorities). He has worked within housing, infrastructure, environmental issues and with Public Transport. Lately, he was involved in designing the congestion tax system that will be implemented in Gothenburg 2013. [per.kristersson@grkom.se](mailto:per.kristersson@grkom.se)



Landvetter interchange, 2010



Skeppsbron, 2011

# LESS INVESTMENT, MORE SERVICE: THE PROPOSAL FOR THE CASTELLI ROMANI

Manuela Manetti and Georgia Pucinischi, Province of Rome, Rome, Italy



## Introduction

Since the 1990's, Rome has been experiencing a significant phenomenon of urbanisation of the outermost metropolitan area at the expense of the population of the capital. Meanwhile, in the most central area, there has been a significant growth of the 'rare' functions – manufacturing, managerial, and commercial. The effect on mobility has been a considerable increase especially in commuter trips by car, favoured by policies that incentivise the use of private means, specifically new radial roads and enlargement of existing ones and no discouragement of parking. The consequences are a further rise in traffic and road congestion, a notable worsening of public transport with buses, and enormous energy consumption and environmental and social consequences. Since the 2000 Jubilee, use of the railroads has risen considerably, with heavy repercussions on the quality of service.

The present system of collective transport satisfies about 1.2 million trips/day made by residents of the Province of Rome. The intermodal combinations (car-public transport, public transport and rail-bus transport) number about 800,000 of which 500,000 take place in the capital. The car-public transport combination represents 30% of the total. The phenomenon, in continuous growth, highlights users' willingness to use intelligently the possibilities offered by the system and reduce the use of private means. The number of rail passengers carried daily in the metropolitan area has quadrupled from some 145,000 in 1993 to 300,000 in 2003, to 650,000 in 2008.

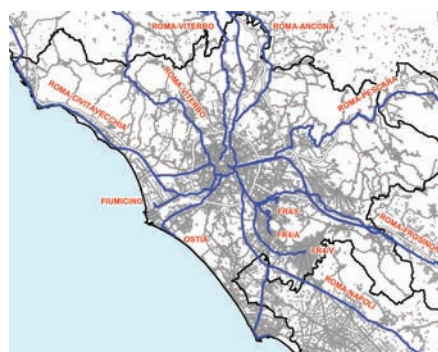
Traffic simulations, with new road infrastructures, have shown the inefficacy of these interventions. The results

do not indicate notable reductions in impacts, specifically with regard to congestion in the Rome area, but rather confirm a general truth: All metropolitan areas around the world in developed countries are subject to congestion. Road interventions do not help owing to the short-medium term combined effect of induced traffic and its diversions on the network and the long-term effect of low-density urban sprawl. In the Rome metropolitan area, the latter phenomenon is also exacerbated by illegal building construction. The proposal presented by the Province of Rome consequently resumes those policies aimed at favouring public and private accessibility on road to rail interchanges, to increase the supply of road and rail public transport, with improvement of the infrastructures and fleets, and to improve the quality of the service through diminution of delays, better safety levels, better travel comfort, and efficient communication. The proposal foresees consolidating a model of governance that, in the coming years, will guarantee the realisation of a single coherent project with the strategic indications contained in the regional and provincial transport plans as well as with the objectives of the industrial plans of the service companies. The model requires adequate monitoring to ensure continuity of financing and respect for the timetables for realisation of the necessary interventions, but especially to maintain the involvement of all the actors involved in decision-making.

## Figure 2: Organisation of the railway services



## Figure 1: The rail network in the Province of Rome



## The current state of public transport service in the Province of Rome

The principal rail infrastructures in the territory of the Province of Rome are managed by RFI SpA. The rail network managed by RFI mainly gravitates towards the capital and has a prevalently radial structure, with a lower half ring to link the various lines. Atac SpA operates three urban rail lines in addition to two Metropolitana lines. The extra-urban road public transport service, at present operated by Cotral Esercizio SpA, comprises some 300 lines, the major part gravitating towards the capital, whose capacity of attraction is such that more than 2000 runs per day terminate within it; the remaining centres of attraction are scattered around the province well distributed on territory but are most numerous in the south-eastern part. Numerous towns have their own public transport service operating only within the town lines, with few exceptions. The service is too fragmentary and insufficiently frequent or punctual to meet the needs of the citizens.

In general, satisfaction with the public transport service rates slightly less than a passing grade. While only 2 users out of 5 judge it to be insufficient, their evaluations are very negative. The users from the municipal district of Rome judge punctuality (31%), destinations served (29%), schedules (14%), and frequency (14%) as inadequate. Users in the rest of the Province judge inadequate destinations served (30%), schedules (21%), punctuality (20%), and frequency (14%). An improvement in the service

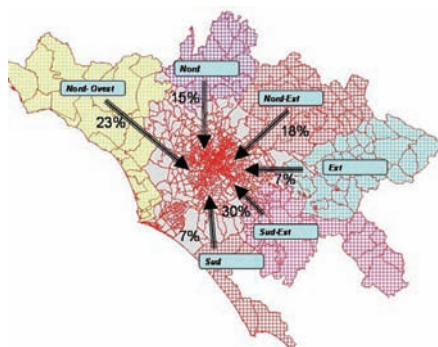
could recover from 10 to 13 percentage points over private modes, which would be consistent with the other European regions with percentages of public transport use above 30%. In a survey about consumer satisfaction, out of a score of 10, among the transport means, the metropolitan rail is the only one that has a positive average score, 6.4; the others are all negative and the regional trains result the least satisfactory, with -5.7. About half the users interviewed, however, recognise an improvement in the quality of public transport. The exception is the users in the Province of Rome (except the municipal district of Rome), who give a very negative judgement. Only 30% consider the service improved and 25% believe that it has become worse.

### The Castelli Romani Project

The Castelli Romani are a cluster of towns in the hills southeast of Rome and are known throughout the world for their white wines and beautiful volcanic lakes. These towns are served by four rail lines (Figure 1) that originate at the Ciampino station, just east of Rome. They are: Ciampino-Zagarolo, Ciampino-Frascati, Ciampino-Albano, and Ciampino-Velletri. They have significant criticisms, such as and especially, the lack of dedicated lanes and congestion at the entry to Rome, the existence of infrastructural and technological bottlenecks, the existence of numerous level crossings, short platforms, with, at the same time, a very high actual and potential demand. The four lines carry on average some 55,000 passengers a day with frequency of 5 to 60 minutes, trip times of 15 to 44 minutes and commercial speeds of 25 km/h to 72 km/h.

The Project, which can be realised in a short time with limited expense

**Figure 3: The origin of commuters from the Province of Rome**



Velletri station

and which would permit considerable improvement of capacity, foresees:

- shorter track blocks and adjustment of the signalling system<sup>1</sup> for the sections Ciampino-Albano, Ciampino-Frascati and Ciampino-Velletri;
- intersections and interchanges with doubling of certain sections;
- periodic railway timetables and increased frequency;
- adjustment of the station platforms;
- rail-rail and rail-road interchanges with the possibility of also creating a parking area for buses near the Ciampino station – such a stop would greatly lighten vehicle traffic on the town of Ciampino;
- removal of level crossings.

As for the extra-urban road public transport service, at present managed by Società Cotral SpA, the Project foresees the rationalisation of the network according to principles of economy and efficiency:



Rail-road crossing Ariccia

- elimination of superimposition among different public transport services (specifically rail-road);
- modal integration or feeder service on rail, coordination of rail-road schedules and improvement of user information;
- adjustment of the stops along the provincial roads and harmonisation of the services with town services especially with reference to health, socio-administrative, and school services and for areas of weak demand.

The Project has been evaluated with TransCAD®, a simulator for transport planning. The result is an overall improvement in capacity, transport times, and accessibility of the entire area to Rome. The project has also been verified with a microsimulator of rail circulation, which has permitted measurement of both the increases in capacity and the regularity of the model and of the rail service itself. According to current assumptions the planning will start in 2012, the works in 2013 and will be finished by 2015. Thus the project will contribute to the improvement of the area of Castelli Romani.

### Endnotes

1. Shorter track blocks and the adjustment of signalling can be realised with a new technology validated in Europe and Italy, very suitable for average speed regional lines. The technology is based on GPS and radio signals and has much lower costs than traditional systems.

**Manuela Manetti** is Director of Department XIV and VI and Head of GIS in the Province of Rome. She is an architect and teaches at the University of Rome 'La Sapienza' and at 'Scuola Superiore della Pubblica Amministrazione Locale'. Manuela has held different roles at Comune di Roma and she is technical coordinator of European projects. [m.manetti@provincia.roma.it](mailto:m.manetti@provincia.roma.it)

**Georgia Pucinischi** is responsible for the Technical Support Office of Department XIV at the Province of Rome. She is an expert member of the mobility working groups and graphic design coordinator. Georgia is project manager in internal and European projects. [g.pucinischi@provincia.roma.it](mailto:g.pucinischi@provincia.roma.it)

# INTEGRATING THE METROPOLITAN REGION THROUGH A CYCLE NETWORK IN BUDAPEST

László Sándor Kerényi and Virág Bencze-Kovács, Transport Strategy Department, BKK Centre for Budapest Transport, Budapest, Hungary

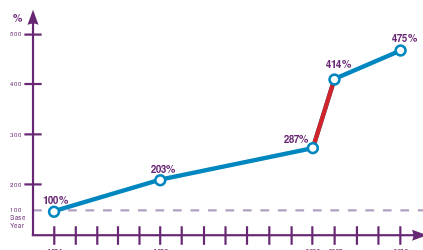


## Introduction

Having a fortunate geography in the mostly flat Carpathian Basin, cycling in Hungary is a traditional form of mobility, especially on the Great Hungarian Plain. In local traffic, the modal share of cycling reaches 40% in certain rural communities. The Hungarian Capital, Budapest experienced an increase in cycling over the last 5 years (see Figure 1), when the number of daily cyclists doubled, yet the 3-5% modal share is under the Western European average. Figure 2 shows bicycle use in Hungarian Regions, with a high potential for increase in Budapest. In recognising that the better use of cycling as an alternative mobility for different groups of people will lead to better quality of life, healthier lifestyle, a cleaner and more welcoming urban environment, several actions have been taken for Central Hungary and the City of Budapest, for both transportation and tourism. The declared goal of the City of Budapest is to reach 10% modal share of cycling by 2020.

In order to define the main direction for developing cycle infrastructure, the Budapest Cycling Concept was created in 2010 with basic principles and guidance based on the general

**Figure 1: Increase of cycling in Budapest (1994-2010), based on traffic counting data of 6 junctions**



framework of the Development Plan of Budapest Transportation System. In parallel with the values declared in the Integrated Urban Development Strategy of Budapest, the main role of cycling is:

- to create a sustainable, safe, healthy and liveable urban environment by better use of limited public space;
- to revive the city centre by providing easy access to shops and other services;
- to balance social inequalities and become a widely used form of mobility.

The fields of action include:

- changing attitudes of transportation experts towards cycling, and let it become an equal form of mobility;
- creation of an adequate institutional, legal and financial framework for effective and sustainable bicycle transport;
- provision of attractive cycling facilities including a safe and convenient environment, available infrastructure, services and information, with the option of combined transportation.

Within the framework of a new city management model, in late 2010, BKK Centre for Budapest Transport was created to manage public transport, cycling, road infrastructure management, parking, taxi services and transport related development projects of Budapest, as an integrated transport competence centre. BKK is responsible for creating transport strategies, coordination of implementation, and preparation of integrated transport development projects. Better integration of cycling into the urban transport system is one of the most important tasks of BKK, and also a great chance to change urban mobility in Budapest.

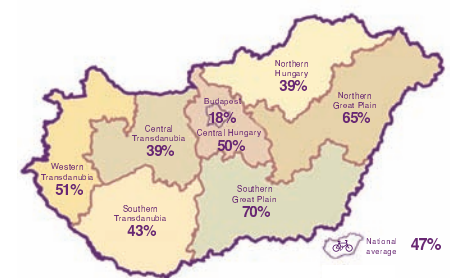
## Actions for the inner city

In the last few decades, cycling has been treated as a leisure activity. The general approach of bicycle infrastructure development was to build sections of bicycle roads completely separated from the existing road infrastructure. The result is a cumbersome legacy: these sections are in many cases not interconnected; conflicts with cars and pedestrians are very regular at every intersection and sidewalk.

Budapest has decided to introduce a public bicycle system (called the 'Budapest Bike' or 'BuBi') from 2013, covering a 12 km<sup>2</sup> area of the inner city, with 74 stations and over 1,000 bicycles. The system will provide an effective and environmentally friendly alternative for inner city travel, and will also promote cycling and therefore affect general travel behaviour. Apart from the technicalities of the BuBi system, a general study of the existing network has been carried out, focusing on the weaknesses of the infrastructure, and providing an action plan to make the inner city more bicycle friendly. The proposed tools are the following:

- audit all future road reconstruction and development plans from a cyclist's point of view, for the completion of the existing core network and eliminating bottlenecks;
- open bus lanes for bicycles whenever possible;
- increase safety and integration of cycling by pictograms, advanced stop lines ("bike boxes") at intersections that help cyclists to cross the junction or turn more safely;
- open one way streets for contraflow cycling, especially in traffic calmed ("Tempo 30") zones;
- increase bicycle parking facilities, by installing bicycle stands at public places and Bike and Ride (B+R) locations;
- introduce pedestrian and cyclist zones and reduce speed limits in the city centre;
- eliminate obstacles wherever possible

**Figure 2: Once in two weeks usage of bicycles in Hungarian regions, based on data collection in September 2011**







*New cycle lane in Budapest Főti Road, established in November 2011 (Source: BKK, Péter Halász)*



*EuroVelo 6 bike route by the Danube at Vác (Source: Wikimedia Commons, Beroesz)*

by a wide range of measures (ramps, sloped curbs, shortcuts).

These tools are now being used with good results and responses both from transport professionals and the average user. After a joint learning process, wider usage of cycles will result in less cars and a friendly environment in the inner city.

### **Actions for suburban areas**

In the last two decades, 15% of citizens, 300,000 people, moved out of the city into the agglomeration, most of them commute back to the capital daily. The size of the agglomeration of the City of Budapest cannot be defined precisely, but daily trips are made to the inner city from over 80 settlements of Central Hungary.

The interchanges between transport modes (mainly from one type of public transport to another, or from cars to public transport) are located in the widely spread suburban areas. From the network point of view, the transition of a bicycle friendly inner city to a separated rural bicycle road must be resolved also in the suburban areas. Suburban infrastructure development therefore focuses on the following:

- better Bike and Ride services at stops and final stations of public transport (a current project is being developed to install 750 bicycle stands at 52 subway and suburban railway stops);
- establishment of regional connections between Budapest and its agglomeration cities (Solymár, Buda Hills, Érd, Vác, Dunakeszi, Fót, Csömör-Kistarcsa, Gyál, Gödöllő).

Efforts are being made towards the review of the current National Construction Act, as the regulation of obligatory parking facilities in new residential areas and

offices should also lead to construction of easy-to-use, safe and weather protected storages for bicycles at home.

Carrying bicycles on suburban railway lines (4 lines ran by Budapest Transport Company, BKV, 11 more by the State Railways, MÁV) is possible; however, the capacities and service levels are limited. Local services are also being reviewed to provide better access to local recreational areas, such as the Buda Hills.

### **Regional and national policies and projects**

Adverse events in the world economy are changing travelling behaviour, also in day-to-day travel to work, and in recreational activities. There is a great potential for cycling in inland tourism, as Budapest and the Central Hungarian Region have prime and unique



*B+R in Gyömrő railway station near Budapest (Source: MÁV Zrt.)*

geographical and natural facilities, cultural values and heritage.

National and regional policies highlight the following main areas of development for Budapest:

- EuroVelo 6: As a continuation of the existing, high quality section from Passau to Vienna, the National Land Use Planning Act contains the alignment of the proposed Hungarian section – the construction itself is the responsibility of the local municipalities. In Budapest, the continuity and high quality of the route must be ensured on both sides of the Danube.
- A tourist and recreational bicycle route along Rákospatak (a small creek that flows from the Gödöllő hills to the river Danube, connecting 3 cities in the agglomeration (Gödöllő, Isaszeg, Pécel) and 4 districts of Budapest. One completed section in District No. 17, which has been opened to the public, receives good responses, can also be a good basis for further development.
- Access to Lake Balaton: The planned reconstruction of Balaton Bicycle Ringroad for 2012 is amended by the development of railway stations (eliminating obstacles, creating a bicycle-friendly environment).

For further development, BKK is in regular contact with a cycling commissioner appointed by the Hungarian Prime Minister.

### **Conclusion**

Budapest is convinced that the above-mentioned cycling measures pave a good way towards integrating sustainable transport modes in the Central Hungarian Region, and will contribute to meeting the goals highlighted in the White Paper of the European Union regarding a competitive and resource efficient urban transport system.

**László Sándor Kerényi** is the Head of the Transport Strategy Department at BKK Centre for Budapest Transport. His work focuses on transport development policies, conceptual and strategic planning of urban mobility for the Hungarian Capital. [laszlo.kerenyi@bkk.hu](mailto:laszlo.kerenyi@bkk.hu)

**Virág Bencze-Kovács** is a strategic coordinator in the Transport Strategy Department at BKK Centre for Budapest Transport. Her field of interest is cycling; her work focuses on changing policies and also attitudes of both authorities and designers towards cycling. [virag.bencze-kovacs@bkk.hu](mailto:virag.bencze-kovacs@bkk.hu)

# Regions

THE VOICE OF THE MEMBERSHIP

Transport is a key factor in economic development, as economic growth requires ready access to resources and market. This applies in particular for Metropolitan Regions as engines of economic growth and as regions with a very diverse population. However, this need for mobility and economic growth has, as side effects, rising volumes of traffic and levels of congestion with a significant impact on the environment. The above-mentioned issues are comprehensively tackled within the Catch-MR project (funded by Interreg IVC), where cooperation between metropolises and their surrounding functional regions is put to the fore in the cases of Berlin-Brandenburg, Budapest-Central Hungary, Gothenburg Region, Ljubljana Urban Region, Oslo-Akershus, Province of Rome, and Vienna-Lower Austria. Our guest Editor, Janez Nared, has therefore compiled a set of case studies from this project for our Regional Survey. Some challenging examples on how different metropolises face urban sprawl, mobility and congestion issues are presented. The most common example in three of the metropolitan regions (Berlin, Vienna and Oslo) is joint planning, where the metropolis and its hinterland cooperate to prevent urban sprawl and to improve public transport systems. These examples show great progress in planning, but still urban sprawl remains an important factor that should be dealt with. The other four examples present transport-related issues in the Ljubljana Urban Region, transport interchanges in Gothenburg, improvements of mobility in Castelli Romani (Rome) and the regional cycle network in Budapest.

In our 'Comment and Debate' section, Tassilo Herrschel discusses the role that the RSA plays in debates on public policy. Also in this issue, Mandy Talbot looks at farm diversification and farm tourism, a paper that won the award for Best Paper at the RSA's Rural Tourism Symposium. Amongst the reports of Research Network events, there is a final report from James Hopkins on his doctoral research relating to the history of the RSA.



Regional Studies Association, PO Box 2058, Seaford, East Sussex BN25 4QU, UK  
Tel: 00 44 (0)1323 899 698, Fax: 00 44 (0)1323 899 798  
info@regionalstudies.org, www.regionalstudies.org

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